LISTING OF CLAIMS

1.-21. (Canceled)

22. (currently amended) A method of identifying a therapeutic agent for treating Alzheimer's disease, comprising the steps of:

(a) performing matings between a first parent strain carrying a mutation in an Alzheimer's disease gene selected from the group consisting of amyloid precursor protein-like (Appl), presenilin (Psn), halothane resistant (har38), cAMP-responsive element-binding protein A (CrebA), cAMP-responsive element-binding protein B (CrebB), α-adaptin, garnet, shibire (shi), Notch (N), Suppressor of Hairless (Su(H)), Delta (Dl), mastermind (mam) and big brain (bib) and a second parent strain containing a genetic variation, whereby test progeny are produced,

wherein, in the absence of an agent, the parent strains produce test progeny having an altered phenotype relative to at least one sibling control;

(b) administering an agent to at least one strain selected from the group consisting of said first parent strain, said second parent strain and said test progeny; and

(c) assaying the test progeny for the altered phenotype,

wherein a modification of the altered phenotype producing a phenotype with more similarity to a wild type phenotype than the altered phenotype has to the wild type phenotype indicates that the agent is a therapeutic agent.

23. (Original) The method of claim 22, wherein said modification is a complete or partial reversion of the altered phenotype.

24.-26. (canceled)

27. (Original) The method of claim 22, wherein the parent strains are Drosophila melanogaster.

28. (Original) The method of claim 22, wherein the altered phenotype is increased viability.

29. (Original) The method of claim 22, wherein said altered phenotype is decreased viability.

30. -36. (Canceled)